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CLAIMS

1. A compound of general formula (I):

 $(X)_n$ R^4 R^5 $(Y)_p$ R^2 R^3 R^6 R^7 (I)

in which:

- n is 1, 2 or 3;

- X is the same or different and is a hydrogen atom, a halogen atom, a nitro group, a cyano group, a hydroxy group, an amino group, a sulfanyl group, a pentafluoro- λ^6 -sulfanyl group, a formyl group, a formyloxy group, a formylamino group, a carboxy group, a carbamoyl group, a N-hydroxycarbamoyl group, a carbamate group, a (hydroxyimino)-C₁-C₆-alkyl group, a C₁-C₈-alkyl, a C₂-C₈alkenyl, a C2-C8-alkynyl, a C1-C8-alkylamino, a di-C1-C8-alkylamino, a C1-C8alkoxy, a C1-C8-halogenoalkoxy having 1 to 5 halogen atoms, a C1-C8-alkylsulfanyl, a C1-C8-halogenoalkylsulfanyl having 1 to 5 halogen atoms, a C2-C8-alkenyloxy, a C2-C8-halogenoalkenyloxy having 1 to 5 halogen atoms, a C3-C8-alkynyloxy, a C3-C₈-halogenoalkynyloxy having 1 to 5 halogen atoms, a C₃-C₈-cycloalkyl, a C₃-C₈halogenocycloalkyl having 1 to 5 halogen atoms, a C₁-C₈-alkylcarbonyl, a C₁-C₈halogenoalkylcarbonyl having 1 to 5 halogen atoms, a C₁-C₈-alkylcarbamoyl, a di-C₁-C₈-alkylcarbamoyl, a (N-C₁-C₈-alkyl)oxycarbamoyl, a C₁-C₈-alkoxycarbamoyl, a $(N-C_1-C_8-alkyl)-C_1-C_8-alkoxycarbamoyl,$ a C₁-C₈-alkoxycarbonyl, C1-C8halogenoalkoxycarbonyl having 1 to 5 halogen atoms, a C1-C8-alkylcarbonyloxy, a C₁-C₈-halogenoalkylcarbonyloxy having 1 to 5 halogen atoms, a C₁-C₈alkylcarbonylamino, a C₁-C₈-halogenoalkylcarbonylamino having 1 to 5 halogen atoms, a C1-C8-alkylaminocarbonyloxy, a di-C1-C8-alkylaminocarbonyloxy, a C1-C8alkyloxycarbonyloxy, a C₁-C₈-alkylsulphenyl, a C₁-C₈-halogenoalkylsulphenyl having 1 to 5 halogen atoms, a C₁-C₈-alkylsulphinyl, a C₁-C₈-halogenoalkylsulphinyl having 1 to 5 halogen atoms, a C₁-C₈-alkylsulphonyl, a C₁-C₈-halogenoalkylsulphonyl having 1 to 5 halogen atoms, a (C₁-C₆-alkoxyimino)-C₁-C₆-alkyl, a (C₁-C₆-alkenyloxyimino)-C₁-C₆-alkyl, a (C₁-C₆-alkynyloxyimino)-C₁-C₆-alkyl,

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(benzyloxyimino)-C₁-C₆-alkyl, a benzyloxy, a benzylsulfanyl, a benzylamino, a phenoxy, a phenylsulfanyl or a phenylamino;

- R1 is a hydrogen atom, a halogen atom, a nitro group, a cyano group, a hydroxy group, an amino group, a sulfanyl group, a pentafluoro-\(\lambda^6\)-sulfanyl group, a formyl group, a formyloxy group, a formylamino group, a carboxy group, a carbamoyl group, a N-hydroxycarbamoyl group, a carbamate group, a (hydroxyimino)-C₁-C₆-alkyl group, a C₁-C₈-alkyl, a C₂-C₈-alkenyl, a C₂-C₈-alkynyl, a C₁-C₈-alkylamino, a di-C₁-C₈-alkylamino, a C₁-C₈-alkoxy, a C₁-C₈-halogenoalkoxy having 1 to 5 halogen atoms, a C₁-C₈-alkylsulfanyl, a C₁-C₈-halogenoalkylsulfanyl having 1 to 5 halogen atoms, a C2-C8-alkenyloxy, a C2-C8-halogenoalkenyloxy having 1 to 5 halogen atoms, a C₃-C₈-alkynyloxy, a C₃-C₈-halogenoalkynyloxy having 1 to 5 halogen atoms, a C3-C8-cycloalkyl, a C3-C8-halogenocycloalkyl having 1 to 5 halogen atoms, a C₁-C₈-alkylcarbonyl, a C₁-C₈-halogenoalkylcarbonyl having 1 to 5 halogen atoms, a C₁-C₈-alkylcarbamoyl, a di-C₁-C₈-alkylcarbamoyl, a N-C₁-C₈-alkyloxycarbamoyl, C₁-C₈-alkoxycarbamoyl, a N-C₁-C₈-alkyl-C₁-C₈a alkoxycarbamoyl, a C1-C8-alkoxycarbonyl, a C1-C8-halogenoalkoxycarbonyl having 1 to 5 halogen atoms, a C₁-C₈-alkylcarbonyloxy, a C₁-C₈-halogenoalkylcarbonyloxy having 1 to 5 halogen atoms, a C₁-C₈-alkylcarbonylamino, halogenoalkylcarbonylamino having 1 to 5 halogen atoms. а C_1-C_8 alkylaminocarbonyloxy, a di-C₁-C₈-alkylaminocarbonyloxy, C1-C8alkyloxycarbonyloxy, a C₁-C₈-alkylsulphenyl, a C₁-C₈-halogenoalkylsulphenyl having 1 to 5 halogen atoms, a C₁-C₈-alkylsulphinyl, a C₁-C₈-halogenoalkylsulphinyl having 1 to 5 halogen atoms, a C₁-C₈-alkylsulphonyl, a C₁-C₈-halogenoalkylsulphonyl having 1 to 5 halogen atoms, a (C₁-C₆-alkoxyimino)-C₁-C₆-alkyl, a (C₁-C₆-alkenyloxyimino)-C₁-C₆-alkyl, (C₁-C₆-alkynyloxyimino)-C₁-C₆-alkyl, a (benzyloxyimino)-C₁-C₆-alkyl, a benzyloxy, a benzylsulfanyl optionally substituted with 1 to 5 halogen atoms, a benzylamino, a phenoxy, a phenylsulfanyl optionally substituted with 1 to 5 halogen atoms or a phenylamino;

with the proviso that X and R1 are not both a hydrogen atom;

- R^2 and R^3 are the same or different and are a hydrogen atom, a halogen atom, a cyano group, a hydroxy group, a C_1 - C_6 -alkyl, a C_1 - C_6 -halogenoalkyl having 1 to 5 halogen atoms, a C_2 - C_6 -alkenyl, a C_1 - C_6 -alkoxy, a C_1 - C_6 -alkylsulfanyl, a C_1 - C_6 -alkylsulfanyloxy or a C_1 - C_6 -alkylcarbonylamino;

or R² and R³ may together form a 3-, 4-, 5- or 6-membered carbocycle;

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- R^4 and R^5 are the same or different and are a hydrogen atom, a halogen atom, a cyano group, a C_1 - C_6 -alkyl or a C_1 - C_6 -halogenoalkyl having 1 to 5 halogen atoms;

or R⁴ and R⁵ may together form a 3-, 4-, 5- or 6-membered carbocycle;

- R⁶ is a hydrogen atom, a cyano group, a formyl group, a hydroxy group, a C₁-C₆-alkyl, a C₁-C₆-halogenoalkyl having 1 to 5 halogen atoms, a C₁-C₆-alkoxy, a C₁-C₆-halogenoalkoxy having 1 to 5 halogen atoms, a C₂-C₆-cycloalkyl, a C₃-C₆-halogenocycloalkyl having 1 to 5 halogen atoms, a C₂-C₆-alkenyl, a C₂-C₆-alkynyl, a C₁-C₆-alkoxy-C₁-C₆-alkyl, a C₁-C₆-cyanoalkyl, a C₁-C₆-aminoalkyl, a C₁-C₆-alkylamino-C₁-C₆-alkylamino-C₁-C₆-alkylcarbonyl, a C₁-C₆-halogenalkylcarbonyl having 1 to 5 halogen atoms, a C₁-C₆-alkyloxycarbonyl, a C₁-C₆-benzyloxycarbonyl, a C₁-C₆-alkylsulfonyl or a C₁-C₆-halogenoalkylsulfonyl having 1 to 5 halogen atoms;
 - p is 1, 2, 3 or 4;
- Y is the same or different and is a hydrogen atom, a halogen atom, a nitro group, a cyano group, a hydroxy group, an amino group, a sulfanyl group, a pentafluoro- λ^6 -sulfanyl group, a formyl group, a formyloxy group, a formylamino group, a carboxy group, a C_1 - C_8 -alkyl, a C_1 - C_8 -halogenoalkyl having 1 to 5 halogen atoms, a C_2 - C_8 -alkenyl, a C_2 - C_8 -alkynyl, a C_1 - C_8 -alkylamino, a di- C_1 - C_8 -alkylamino, a C_1 - C_8 -alkoxy, a C_1 - C_8 -halogenoalkoxy having 1 to 5 halogen atoms, a C_1 - C_8 -alkoxy- C_2 - C_8 -alkenyl, a C_1 - C_8 -alkylsulfanyl, a C_1 - C_8 -halogenoalkylsulfanyl having 1 to 5 halogen atoms, a C_1 - C_8 -halogenoalkylcarbonyloxy having 1 to 5 halogen atoms, a C_1 - C_8 -alkylsulphenyl, a C_1 - C_8 -halogenoalkylsulphenyl having 1 to 5 halogen atoms, a C_1 - C_8 -alkylsulphinyl, a C_1 - C_8 -halogenoalkylsulphinyl having 1 to 5 halogen atoms, a C_1 - C_8 -alkylsulphinyl, a C_1 - C_8 -halogenoalkylsulphinyl having 1 to 5 halogen atoms, a C_1 - C_8 -alkylsulphonyl, a C_1 - C_8 -halogenoalkylsulphinyl having 1 to 5 halogen atoms or a C_1 - C_8 -alkylsulphonyl, a C_1 - C_8 -halogenoalkylsulphinyl having 1 to 5 halogen atoms or a C_1 - C_8 -alkylsulphonyl, a C_1 - C_8 -halogenoalkylsulphonyl having 1 to 5 halogen atoms or a C_1 - C_8 -alkylsulphonyl, a C_1 - C_8 -halogenoalkylsulphonyl having 1 to 5 halogen atoms or a C_1 - C_8 -alkylsulphonyl, a C_1 - C_8 -halogenoalkylsulphonyl having 1 to 5 halogen atoms or a C_1 - C_8 -alkylsulphonyl, a C_1 - C_8 -halogenoalkylsulphonyl having 1 to 5 halogen atoms or a C_1 - C_8 -alkylsulphonyl, a C_1 - C_8 -halogenoalkylsulphonyl having 1 to 5 halogen atoms or a C_1 - C_8 -alkylsulfonamide; and
- R^7 is a halogen atom, a nitro group, a cyano group, an amino group, a sulfanyl group, a pentafluoro- λ^6 -sulfanyl group, a formyl group, a formyloxy group, a formylamino group, a carboxy group, a C_1 - C_8 -alkyl, a C_1 - C_8 -halogenoalkyl having 1 to 5 halogen atoms, a C_2 - C_8 -alkenyl, a C_2 - C_8 -alkylamino, a C_1 - C_8 -alkylamino, a C_1 - C_8 -alkoxy, a C_1 - C_8 -halogenoalkoxy having 1 to 5 halogen atoms, a C_1 - C_8 -alkoxy- C_2 - C_8 -alkenyl, a C_1 - C_8 -alkylsulfanyl, a C_1 - C_8 -halogenoalkylsulfanyl having 1 to 5 halogen atoms, a C_1 - C_8 -alkylcarbonyl, a C_1 - C_8 -halogenoalkoxycarbonyl having 1 to 5 halogen atoms, a C_1 - C_8 -alkylcarbonyloxy,

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a C_1 - C_8 -halogenoalkylcarbonyloxy having 1 to 5 halogen atoms, a C_1 - C_8 -alkylsulphenyl, a C_1 - C_8 -halogenoalkylsulphenyl having 1 to 5 halogen atoms, a C_1 - C_8 -alkylsulphinyl, a C_1 - C_8 -halogenoalkylsulphinyl having 1 to 5 halogen atoms, a C_1 - C_8 -alkylsulphonyl, a C_1 - C_8 -halogenoalkylsulphonyl having 1 to 5 halogen atoms or a C_1 - C_8 -alkylsulfonamide;

as well as its salts, N-oxydes, metallic and metalloidic complexes.

- 2. A compound according to claim 1, characterised in that R^1 is a hydrogen atom or a halogen atom.
- 3. A compound according to claim 1 or 2, characterised in that n is 1 or 2.
- 4. A compound according to any of the claims 1 to 3, characterised in that X is a halogen atom or a C_1 - C_3 -alkyl.
- 5. A compound according to any of the claims 1 to 4, characterised in that the 2-pyridyl is substituted by X in 3- and/or in 5-position.
- 6. A compound according to any of the claims 1 to 5, characterised in that R⁷ is a halogen atom, a C₁-C₈-alkyl or a C₁-C₈-halogenoalkyl having 1 to 5 halogen atoms.
 - 7. A compound according to any of the claims 1 to 6, characterised in that p is 1 or 2.
- 25 8. A compound according to claim 7, characterised in that p is 1.
 - 9. A compound according to any of the claims 1 to 8, characterised in that Y is a hydrogen atom, a halogen atom or a C_1 - C_8 -alkyl.
- 30 10. A compound according to claim 9, characterised in that Y is a hydrogen atom.
 - 11. A compound according to any of the claims 1 to 10, characterised in that the phenyl is substituted by Y preferentially first in para position.

12. A process (A) for the preparation of compound of general formula (Ia)

$$R^{1}$$
 R^{2}
 R^{3}
 H
 R^{7}
 $(Y)_{p}$
 (Ia)

wherein:

- R¹, R², R⁷, X, Y, n and p are as defined in claim 1claim 1;

- R³ is a C₁-C₆ alkyl;

which comprises

- a first step according to reaction scheme A-1:

$$\begin{array}{c|c}
Scheme A-1 \\
(X)_n \\
R^1 \\
N \\
U + R^2 \\
O \\
R^8 \\
O \\
R^8
\end{array}$$

$$\begin{array}{c}
(X)_n \\
R^1 \\
N \\
R^2 \\
O \\
O \\
R^8$$

$$\begin{array}{c}
CN \\
O \\
O \\
R^8
\end{array}$$

$$\begin{array}{c}
(II) \\
(III) \\
(III) \\
(IV)
\end{array}$$

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in which: -R¹, R², X and n are as defined in claim 1;

- R^8 is a C_1 - C_6 alkyl, a C_1 - C_6 haloalkyl, a benzyl, 4-methoxybenzyl or pentafluorophenyl;

- U is a leaving group chosen as being a halogen, a C_1 - C_6 alkylsulfonate or a C_1 - C_6 haloalkylsulfonate;

comprising the arylation of a cyanoacetate derivative of general formula (III) by a pyridine derivative of general formula (II), to provide a 2-(pyridyl)cyanoacetate derivative of general formula (IV), in the presence of a base, at a temperature of from 0°C to 200°C;

25 - a second step according to reaction scheme A-2:

Scheme A-2

$$(X)_n$$
 $(X)_n$
 $(X)_$

in which: -R¹, R², X, n are as defined in claim 1;

- R³ is a hydrogen atom;

- R⁸ is a C₁-C₆ alkyl, a C₁-C₆ haloalkyl, a benzyl, 4-methoxybenzyl or pentafluorophenyl;

comprising a basic hydrolysis, an acidic hydrolysis or a displacement by an halide of a compound of general formula (IV) in the same or a different pot to provide, upon heating at a temperature of from 40°C to reflux, a 2-pyridylacetonitrile derivative of general formula (Va);

- a third step according to reaction scheme A-3:

Scheme A-3

$$(X)_n$$
 $(X)_n$
 $(X)_$

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in which: -R¹, R², X, n are as defined in claim 1;

- R^3 is a C_1 - C_6 alkyl;

- W is a halogen atom, a C_1 - C_6 alkylsulfonate, a C_1 - C_6

haloalkylsulfonate or a 4-methyl-phenylsulfonate, comprising the alkylation of a compound of general formula (Va) by a reagent of

comprising the alkylation of a compound of general formula (Va) by a reagent of general formula (XVII) to provide a compound of general formula (Vb);

- a fourth step according to reaction scheme A-4:

Scheme A-4

$$(X)_{n}$$

$$R^{1}$$

$$R^{2}$$

$$R^{3}$$

$$(Va) \text{ or } (Vb)$$

$$(VI)$$

$$(X)_{n}$$

$$R^{1}$$

$$R^{2}$$

$$R^{3}$$

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in which: -R¹, R², X, n are as defined in claim 1;

- R³ is a hydrogen atom or a C₁-C₆ alkyl;

- L¹ is a leaving group chosen as being a -OR⁸ group or a -OCOR⁸ group, R⁸ being a C₁-C₆ alkyl, a C₁-C₆ haloalkyl, a benzyl, 4-methoxybenzyl or pentafluorophenyl;

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- PG represents a protecting group which may be a -COOR⁸ group or -COR⁸ group, R⁸ being a C₁-C₆ alkyl, a C₁-C₆ haloalkyl, a benzyl, 4-methoxybenzyl or pentafluorophenyl;

comprising the reduction, by hydrogenation or by an hydride donor, of a compound of general formula (Va) or (Vb), in the presence of a catalyst and in the presence of a compound of general formula (VI) to produce a compound of general formula (VII), at a temperature of from 0°C to 150°C and under a pressure of from 1 bar and 100 bar;

- a fifth step according to reaction scheme A-5:

Scheme A-5

$$(X)_{n}$$

$$R^{1}$$

$$R^{2}$$

$$PG$$

$$(VII)$$

$$(X)_{n}$$

$$R^{1}$$

$$R^{2}$$

$$R^{3}$$

$$R^{3}$$

$$R^{2}$$

$$R^{3}$$

$$R^{3}$$

$$R^{1}$$

$$R^{2}$$

$$R^{3}$$

$$R^{3}$$

$$R^{3}$$

$$R^{1}$$

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$$R^{3}$$

$$R^{3}$$

$$R^{3}$$

$$R^{3}$$

$$R^{3}$$

in which: - R¹, R², X, n are as defined claim 1claim 1; - R³ is a C₁-C₆ alkyl:

- PG represents a protecting group which may be a -COOR⁸ group or -COR⁸ group, R⁸ being a C₁-C₆ alkyl, a C₁-C₆ haloalkyl, a benzyl, 4-methoxybenzyl or pentafluorophenyl;

comprising a deprotection reaction, in an acidic or in a basic medium, of a compound of general formula (VII) to provide an amine derivative of general formula (VIIIa) or one of its salt;

20 - a sixth step according to reaction scheme A-6:

Scheme A-6

$$(X)_{n}$$

$$R^{1}$$

$$R^{2}$$

$$R^{3}$$

$$H$$

$$H$$

$$L^{2}$$

$$(Y)_{p}$$

$$R^{1}$$

$$R^{2}$$

$$R^{3}$$

$$R^{3}$$

$$R^{3}$$

$$R^{7}$$

$$(Y)_{p}$$

$$(IX)$$

$$(IA)$$

in which: -R¹, R², R⁷, X, Y, n and p are as defined in claim 1;

- R³ is a C₁-C₆ alkyl;

- L^2 is a leaving group chosen as being a halogen atom, a hydroxyl group, an OR^8 group, an $OCOR^8$, R^8 being a C_1 - C_6 alkyl, a C_1 - C_6 haloalkyl,

a benzyl, 4-methoxybenzyl or pentafluorophenyl; or a group of formula o

comprising a coupling reaction of an amine derivative of general formula (VIIIa) or one of its salt, with a carboxylic acid derivative of formula (IX) to provide a compound of general formula (Ia).

13. A process (B) for the preparation of compound of general formula (Ia)

$$(X)_n$$
 R^4
 R^5
 $(Y)_p$
 R^2
 R^3
 H
 R^7
 (Ia)

wherein:

- R¹, R², R⁷, X, Y, n and p are as defined in claim 1;

- R^3 is a C_1 - C_6 alkyl;

which comprises

- a first step according to reaction scheme B-1:

$$\begin{array}{c|c}
\underline{\text{Scheme B-1}} \\
(X)_n \\
R^1 \\
N \\
U \\
+ R^2 \\
O \\
CN \\
R^8 \\
- R^1 \\
N \\
R^2 \\
O \\
CN \\
R^8 \\
O \\
R^8 \\
(IV)$$

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in which: -R¹, R², X and n are as defined in claim 1;

- R^8 is a C_1 - C_6 alkyl, a C_1 - C_6 haloalkyl, a benzyl, 4-methoxybenzyl or pentafluorophenyl;

- U is a leaving group chosen as being a halogen atom, a C₁-C₆ alkylsulfonate or a C₁-C₆ haloalkylsulfonate;

comprising the arylation of a cyanoacetate derivative of general formula (III) by a pyridine derivative of general formula (II) to provide a 2-pyridylcyanoacetate derivative of general formula (IV);

- a second step according to reaction scheme B-2:

Scheme B-2

$$(X)_{n}$$

$$R^{1} N_{R^{2}} CN$$

$$(IV)$$

$$(X)_{n}$$

$$R^{1} N_{R^{2}} CN$$

$$(Va)$$

in which: -R¹, R², X and n are as defined in claim 1;

- R⁸ is a C₁-C₆ alkyl, a C₁-C₆ haloalkyl, a benzyl, 4-

5 methoxybenzyl or pentafluorophenyl;

comprising a basic hydrolysis, an acidic hydrolysis or a displacement by an halide of a compound of general formula (IV) in the same or a different pot to provide, upon heating at a temperature of from 40°C to reflux, a 2-pyridylacetonitrile derivative of general formula (Va);

10 - a third step according to reaction schemeB-3:

Scheme B-3

$$(X)_{n}$$

$$R^{1} \longrightarrow R^{2}$$

$$(Va) \qquad (XVII) \qquad (XX)_{n}$$

$$R^{1} \longrightarrow R^{2} \longrightarrow R^{2}$$

$$(Vb)$$

in which: -R¹, R², X, n are as defined in claim 1;

- R^3 is a C_1 - C_6 alkyl;

- W is a halogen atom, a C_1 - C_6 alkylsulfonate, a C_1 - C_6 haloalkylsulfonate or a 4-methyl-phenylsulfonate,

comprising the alkylation of a compound of general formula (Va) by a reagent of general formula (XVII) to provide a compound of general formula (Vb);

- a fourth step according to reaction scheme B-4:

Scheme B-4

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$$(X)_n$$
 $(X)_n$
 $(X)_$

in which: -R¹, R², R⁷, X, Y, n and p are as defined in claim 1;

- R^3 is a C_1 - C_6 alkyl;

- L³ is a leaving group chosen as being -OCOR⁸, R⁸ being a C₁-C₆ alkyl, a C₁-C₆ haloalkyl, a oction, OCHO, -SCSN(Me)₂ or a group of formula (Y)_p C₁-C₆ alkyl, a C₁-C₆ haloalkyl, a benzyl, 4-methoxybenzyl or pentafluorophenyl; -

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comprising the reduction by hydrogenation or by an hydride of a compound of general formula (Va) or a compound of general formula (Vb) in the presence of a catalyst and in the presence of a compound of general formula (IX) to produce a compound of general formula (Ia), at a temperature of from 0°C to 150°C and under a pressure of from 1 bar and 100 bar.

14. A process (C) for the preparation of compound of general formula (Ia)

(Ia)

wherein R¹, R², R³, R⁷, X, Y, n and p are as defined in claim 1; which comprises

- a first step according to reaction scheme C-1:

Scheme C-1

$$(X)_{n}$$

$$R^{1}$$

$$V$$

$$(II)$$

$$(IIIb)$$

$$(X)_{n}$$

$$R^{1}$$

$$R^{2}$$

$$R^{3}$$

$$(Vb)$$

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- R¹, R², R³, X and n are as defined in claim 1; in which:

- U is a leaving group chosen as being a halogen atom, a C₁-C₆ alkylsulfonate or a C₁-C₆ haloalkylsulfonate;

comprising the arylation of a compound of general formula (IIIb) by a pyridine derivative of general formula (II) to provide a 2-pyridylacetonitrile derivative of general formula (Vb), in the presence of a base and at a at temperature of from -100°C to 200°C;

- a second step according to reaction scheme C-2:

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Scheme C-2

$$(X)_{n}$$

$$R^{1}$$

$$R^{2}$$

$$R^{3}$$

$$(Vb)$$

$$(VI)$$

$$(X)_{n}$$

$$R^{1}$$

$$R^{2}$$

$$R^{3}$$

$$R^{2}$$

$$R^{3}$$

$$R^{3}$$

$$R^{2}$$

$$R^{3}$$

$$R^{3}$$

$$R^{2}$$

$$R^{3}$$

$$R^{3}$$

$$R^{3}$$

in which: $^{\cdot}$ - R¹, R², R³, X and n are as defined in claim 1;

- L^1 is a leaving group chosen as being a -OR⁸ group or a -OCOR⁸ group, R⁸ being a C₁-C₆ alkyl, a C₁-C₆ haloalkyl, a benzyl, 4-methoxybenzyl or pentafluorophenyl;

- PG represents a protecting group which may be a -COOR⁸ group or -COR⁸ group, R⁸ being a C₁-C₆ alkyl, a C₁-C₆ haloalkyl, a benzyl, 4-methoxybenzyl or pentafluorophenyl;

comprising the reduction, by hydrogenation or by an hydride donor, of a compound of general formula (Va) or (Vb), in the presence of a compound of general formula (VI) to produce a compound of general formula (VII);

- a third step according to reaction scheme C-3:

Scheme C-3

$$(X)_{n}$$

$$R^{1}$$

$$R^{2}$$

$$R^{3}$$

$$PG$$

$$(VII)$$

$$(X)_{n}$$

$$R^{1}$$

$$R^{2}$$

$$R^{3}$$

$$R^{3}$$

$$R^{2}$$

$$R^{3}$$

$$R^{3}$$

$$R^{2}$$

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$$R^{3}$$

in which:

- R¹, R², R³, X and n are as defined in claim 1;

- PG represents a protecting group which may be a -COOR⁸ group or -COR⁸ group, R⁸ being a C_1 - C_6 alkyl, a C_1 - C_6 haloalkyl, a benzyl, 4-methoxybenzyl or pentafluorophenyl;

comprising a deprotection reaction, in an acidic or in a basic medium, of a compound of general formula (VII) to provide an amine derivative of general formula (VIIIa) or one of its salt;

- a fourth step according to reaction scheme C-4:

(Ia)

Scheme C-4

in which: . . - R¹, R², R³, R⁷, X, Y, n and p are as defined in claim 1;

- L⁴ is a leaving group chosen as being a halogen atom, a hydroxyl group, -OCHO, -SCSN(Me)₂, an OR⁸ group, an OCOR⁸, R⁸ being a C₁-C₆ alkyl, a C₁-C₆ haloalkyl, a benzyl, 4-methoxybenzyl or pentafluorophenyl; or a group of formula

comprising a coupling reaction of an amine derivative of general formula (VIIIa) or one of its salt, with a carboxylic acid derivative of formula (IX) to provide a compound of general formula (Ia).

15. A process (D) for the preparation of compound of general formula (Ia)

$$(X)_{n}$$

$$R^{4}$$

$$R^{5}$$

$$(Y)_{p}$$

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wherein: -R¹, R², R⁷, X, Y, n and p are as defined in claim 1; -R³ is a C₁-C₆ alkyl;

which comprises

- a first step according to reaction scheme D-1:

Scheme D-1

$$(X)_{n}$$

$$R^{1}$$

$$V$$

$$(II)$$

$$(IIIb)$$

$$(X)_{n}$$

$$R^{1}$$

$$R^{2}$$

$$R^{3}$$

$$(Vb)$$

in which: -R¹, R², R³, X and n are as defined in claim 1;

- U is a leaving group chosen as being a halogen atom, a C₁-C₆ alkylsulfonate or a C1-C6 haloalkylsulfonate;

comprising the arylation of a compound of general formula (IIIb) by a pyridine derivative of general formula (II) to provide a 2-pyridylacetonitrile derivative of general formula (Vb), in the presence of a base and at a at temperature of from -100°C to 200°C;

- a second step according to reaction scheme D-2:

Scheme D-2

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$$(X)_{n}$$

$$R^{1} N_{R^{2}} R^{3} + L^{3} (Y)_{p}$$

$$(Vb) \qquad (IX)$$

$$(X)_{n}$$

$$R^{1} N_{R^{2}} R^{3} H R^{7} (Y)_{p}$$

$$(Ia)$$

in which:

- \hat{R}^1 , R^2 , R^7 , X, Y, n and p are as defined in claim 1;

- R^3 is a C_1 - C_6 alkyl;

- L³ is a leaving group chosen as being -OCOR⁸, R⁸ being a

C₁-C₆ alkyl, a C₁-C₆ haloalkyl, a benzyl, 4-methoxybenzyl or pentafluorophenyl; -OCHO, -SCSN(Me)₂ or a group of formula

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comprising the reduction by hydrogenation or by an hydride donor a compound of general formula (Va) or a compound of general formula (Vb) in the presence of a compound of general formula (IX) to provide a compound of general formula (Ia).

16. A process (E) for the preparation of compound of general formula (Ia)

(Ia)

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Ç.,

- R¹, R², R³, R⁷, X, Y, n and p are as defined in claim 1; wherein:

- R⁴ is a hydrogen atom, a C₁-C₆ alkyl or a C₁-C₆ haloalkyl;

- R⁵ is a C₁-C₆ alkyl or a C₁-C₆ haloalkyl; - L⁴ is a leaving group chosen as being a halogen atom, a hydroxyl group, -OCHO, -SCSN(Me)2, an OR⁸ group, an OCOR⁸, R⁸ being a C_1 - C_6 alkyl, a C_1 - C_6 haloalkyl, a benzyl, 4-methoxybenzyl or pentafluorophenyl; or a group of formula

which comprises

- a first step according to reaction scheme E-1:

Scheme E-1

$$(X)_n$$
 $(X)_n$ $(X)_$

in which:

- R¹, R², R³, X and n are as defined in claim 1;

- R⁴ is a hydrogen atom, a C₁-C₆ alkyl or a C₁-C₆ haloalkyl;

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- U is a leaving group chosen as being a halogen atom, a C_1 - C_6 alkylsulfonate or a C_1 - C_6 haloalkylsulfonate;

comprising the arylation of a compound of general formula (X) by a pyridine derivative of general formula (II) to provide a compound of general formula (XI);

- a second step according to reaction scheme E-2:

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Scheme E-2

$$(X)_n$$
 R^1
 R^2
 R^3
 $(X)_n$
 R^1
 R^2
 R^3
 (XI)
 $(XIII)$

in which:

- R¹, R², R³, X and n are as defined in claim 1;

- R⁴ is a hydrogen atom, a C₁-C₆ alkyl or a C₁-C₆ haloalkyl;

comprising the conversion of a compound of general formula (XI) into a compound of general formula (XIII) by addition of a compound of general formula R⁵-M, in which R⁵ is a C₁-C₆ alkyl or a C₁-C₆ haloalkyl and M is a metal specie;

- a third step according to reaction scheme E-3:

Scheme E-3

(X)_n HO
$$R^5$$
 (X)_n W R^5 R^4 R^2 R^3 (XIII) (XIV)

- R¹, R², R³, X and n are as defined in claim 1; in which:

- R⁴ is a hydrogen atom, a C₁-C₆ alkyl or a C₁-C₆ haloalkyl;

- R^5 is a C_1 - C_6 alkyl or a C_1 - C_6 haloalkyl;

- W is a leaving group chosen as being a halogen atom, a C₁-C₆

- 5 · alkylsulfonate, a C₁-C₆ haloalkylsulfonate or a 4-methyl-phenylsulfonate; comprising the activation of a compound of general formula (XIII) by converting it into a compound of general formula (XIV);
 - a fourth step according to reaction scheme E-4:

Scheme E-4

$$(X)_{n} \qquad W \qquad R^{5} \qquad (X)_{n} \qquad R^{4} \qquad R^{5} \qquad (X)_{n} \qquad R^{4} \qquad R^{5} \qquad (X)_{n} \qquad$$

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in which:

- R¹, R², R³, X and n are as defined in claim 1;

- R⁴ is a hydrogen atom, a C₁-C₆ alkyl or a C₁-C₆ haloalkyl;

- R⁵ is a C₁-C₆ alkyl or a C₁-C₆ haloalkyl;

- W is a leaving group chosen as being a halogen atom, a C₁-C₆

alkylsulfonate, a C₁-C₆ haloalkylsulfonate or a 4-methyl-phenylsulfonate; comprising the substitution of a compound of general formula (XIV) by a phtalimide derivative or one of its salt to provide a compound of general formula (XVa);

- a fifth step according to reaction scheme E-5:

Scheme E-5

$$(X)_{n}$$

$$R^{1}$$

$$R^{2}$$

$$R^{3}$$

$$R^{3}$$

$$R^{2}$$

$$R^{3}$$

$$R^{3}$$

$$R^{2}$$

$$R^{3}$$

$$R^{3}$$

$$R^{4}$$

$$R^{5}$$

$$R^{2}$$

$$R^{3}$$

$$R^{4}$$

$$R^{5}$$

$$R^{5}$$

$$R^{2}$$

$$R^{3}$$

$$R^{4}$$

$$R^{5}$$

$$R^$$

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in which:

- R¹, R², R³, X and n are as defined in claim 1; - R⁴ is a hydrogen atom, a C₁-C₆ alkyl or a C₁-C₆ haloalkyl;

- R⁵ is a C₁-C₆ alkyl or a C₁-C₆ haloalkyl;

comprising the de-protection of a compound of general formula (XVa) by reacting it with hydrazine hydrate or a hydrazine salt to provide an amine derivative of general formula (VIIIc) or one of its salt;

- a sixth step according to reaction scheme E-6:

Scheme E-6

$$(X)_{n} \xrightarrow{R^{4} R^{5}} H + L^{4} \xrightarrow{(Y)_{p}} \xrightarrow{(X)_{n}} R^{4} R^{5} \xrightarrow{(Y)_{p}} (Y)_{p}$$

$$(VIIIc) \qquad (IX) \qquad (Ia)$$

in which: -R¹, R², R³, R⁷, X, Y, n and p are as defined in claim 1;

- R⁴ is a hydrogen atom, a C₁-C₆ alkyl or a C₁-C₆ haloalkyl;

- R^5 is a C_1 - C_6 alkyl or a C_1 - C_6 haloalkyl; - L^4 is a leaving group chosen as being a halogen atom, a hydroxyl group, -OCHO, -SCSN(Me)₂, an OR⁸ group, an OCOR⁸, R^8 being a C_1 - C_6 alkyl, a C_1 - C_6 haloalkyl, a benzyl, 4-methoxybenzyl or pentafluorophenyl; or a group of formula

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comprising a coupling reaction of an amine derivative of general formula (VIIIb) or one of its salt, with a carboxylic acid derivative of formula (IX) to provide a compound of general formula (Ia).

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17. A process (F) for the preparation of compound of general formula (Ia)

$$R^{1}$$
 R^{2}
 R^{3}
 R^{7}
 R^{7}
 R^{1}
 R^{2}
 R^{3}
 R^{3}
 R^{7}
 R^{7}
 R^{1}
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 R^{7}
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wherein: -R¹, R⁷, X, Y, n and p are as defined in claim 1;

- R², R⁴ and R⁵ are independently from each other chosen as

being a hydrogen atom, a C₁-C₆ alkyl or a C₁-C₆ haloalkyl; which comprises

- a first step according to reaction scheme F-1:

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Scheme F-1

$$(X)_{n}$$

$$R^{1}$$

$$(II)$$

$$(XVI)$$

$$(X)_{n}$$

$$R^{1}$$

$$R^{2}$$

$$(X)_{n}$$

$$R^{1}$$

$$R^{2}$$

$$(X)_{n}$$

$$R^{2}$$

$$R^{4}$$

$$(XVII)$$

in which:

- R¹, X and n are as defined in claim 1;

- U is a leaving group chosen as being a halogen atom a C₁-C₆ alkylsulfonate or a C₁-C₆ haloalkylsulfonate;

- R^2 , R^4 and R^5 are independently from each other chosen as being a hydrogen atom, a C_1 - C_6 alkyl or a C_1 - C_6 haloalkyl;

- M is a metal or a metalloid specie; comprising a coupling reaction of a pyridine derivative of general formula (II) with a vinylic specie of general formula (XVI), at a temperature of from 0°C to 200°C, to provide a compound of general formula (XVII);

- a second step according to reaction scheme F-2:

Scheme F-2

$$(X)_{n}$$

$$R^{1}$$

$$R^{2}$$

$$R^{4}$$

$$R^{2}$$

$$R^{4}$$

$$R^{5}$$

$$R^{2}$$

$$R^{2}$$

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$$R^{5}$$

$$R^$$

in which:

- R¹, X and n are as defined in claim 1;

15 - R², R⁴ and R⁵ are independently from each other chosen as being a hydrogen atom, a C₁-C₆ alkyl or a C₁-C₆ haloalkyl; comprising the addition of a phtalimide or one of its salt on a compound of general formula (XVII) to provide a compound of general formula (XVb);

- a third step according to reaction scheme F-3:

Scheme F-3

$$(X)_{n}$$

$$R^{1}$$

$$R^{2}$$

$$(XVb)$$

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in which: - R¹, X and n are as defined in claim 1;

- R², R⁴ and R⁵ are independently from each other chosen as being a hydrogen atom, a C₁-C₆ alkyl or a C₁-C₆ haloalkyl;

comprising the de-protection of a compound of general formula (XVb) with hydrazine hydrate or an hydrazine salt, to provide an amine derivative of general formula (VIIId) or one of its salts;

- a fourth step according to reaction scheme F-4:

Scheme F-4

$$(X)_{n}$$

$$R^{4}$$

$$R^{5}$$

$$R^{2}$$

$$H$$

$$(VIIId)$$

$$(IX)$$

$$(X)_{n}$$

$$R^{4}$$

$$R^{5}$$

$$R^{1}$$

$$R^{2}$$

$$R^{3}$$

$$R^{2}$$

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$$R^{5}$$

$$R^{$$

in which:

- R¹, R⁷, X, Y, n and p are as defined in claim 1;

- R², R⁴ and R⁵ are independently from each other chosen as being a hydrogen atom, a C₁-C₆ alkyl or a C₁-C₆ haloalkyl;

- L⁴ is a leaving group chosen as being a halogen atom, a hydroxyl group, -OCHO, -SCSN(Me)₂, an OR⁸ group, an OCOR⁸, R⁸ being a C₁-C₆ alkyl, a C₁-C₆ haloalkyl, a benzyl, 4-methoxybenzyl or pentafluorophenyl; or a group of formula

 $(Y)_{p}^{j}$

comprising a coupling reaction of an amine derivative of general formula (VIIIb) or one of its salt, with a carboxylic acid derivative of formula (IX) to provide a compound of general formula (Ia).

18. A process according to any of the claims 12 to 17 which further comprises a step according to reaction scheme G:

Scheme G

$$R^{1} \stackrel{(X)_{n}}{\stackrel{R^{4}}{\stackrel{R^{5}}{\stackrel{O}{\stackrel{O}}{\stackrel{O}{\stackrel{O}}{\stackrel{O}{\stackrel{O}}{\stackrel{O}{\stackrel{O}}{\stackrel{O}}{\stackrel{O}{\stackrel{O}}{\stackrel{O}}{\stackrel{O}}{\stackrel{O}}{\stackrel{O}}{\stackrel{O}{\stackrel{O}}{\stackrel{O}}{\stackrel{O}}{\stackrel{O}}{\stackrel{O}{\stackrel{O}}{\stackrel{O}}{\stackrel{O}}{\stackrel{O}}{\stackrel{O}}{\stackrel{O}{\stackrel{O}}{\stackrel{O}}{\stackrel{O}}{\stackrel{O}}{\stackrel{O}}{\stackrel{O}}{\stackrel{O}}{\stackrel{O}}{\stackrel{O}}{\stackrel{O}}{\stackrel{O}{\stackrel{O}}{\stackrel{O}}{\stackrel{O}}{\stackrel{O}}{\stackrel{O}}{\stackrel{O}}{\stackrel{O}}{\stackrel{O}}{\stackrel{O}}{\stackrel{O}}{\stackrel{O}{\stackrel{O}{\stackrel{O}}{\stackrel{O}}{\stackrel{O}}{\stackrel{O}}{\stackrel{O}}{\stackrel{O}}{\stackrel{O}}{\stackrel{O}}{\stackrel{O}}{\stackrel{O}}{\stackrel{O}{\stackrel{O}{\stackrel{O}}{$$

in which: - R¹, R², R³, R⁴, R⁵, R⁶, R⁷, X, Y, n and p are as defined in claim 1;

- L⁵ is a leaving group chosen as being a halogen atom, a 4-methyl phenylsulfonyloxy, a methylsulfonyloxy;

comprising the reaction of a compound of general formula (Ia) with a compound of general formula (XVI) to provide a compound of general formula (Ib).

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- 19. A process for the preparation of compound of general formula (I) as defined in claim 1, which comprises
- a first step according to reaction scheme H-1:

Scheme H-1

$$(X)_{n}$$

$$R^{1}$$

$$N$$

$$U$$

$$+ R^{2}$$

$$R^{3}$$

$$R^{1}$$

$$R^{2}$$

$$R^{3}$$

$$(XI)$$

$$(XI)$$

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in which:

- R¹, R², R³, X and n are as defined in claim 1;

- R⁴ is a hydrogen atom, a C₁-C₆ alkyl or a C₁-C₆ haloalkyl;

- U is a leaving group chosen as being a halogen atom, a C_1 - C_6 alkylsulfonate or a C_1 - C_6 haloalkylsulfonate;

comprising the arylation of a compound of general formula (X) by a pyridine derivative of general formula (II) to provide a compound of general formula (XI), in the presence of a base, at a temperature of from 0°C to 200°C;

- a second step according to reaction scheme H-2:

Scheme H-2

 $(X)_{n}$ R^{1} R^{2} R^{3} (XI) $(X)_{n}$ R^{1} R^{2} R^{3} R^{3} R^{6}

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in which:

- R¹, R², R³, X and n are as defined in claim 1;
- R⁴ is a hydrogen atom, a C₁-C₆ alkyl or a C₁-C₆ haloalkyl;
- R⁶ is a hydrogen atom, a C₁-C₆ alkyl, a C₁-C₆ haloalkyl, a C₁-

C₆ alkoxy or a C₃-C₇ cycloalkyl;

- comprising the reaction of a compound of general formula (XI) with an amine of formula R⁶-NH2 to provide an imine derivative of general formula (XII);
 - a third step according to scheme H-3:

Scheme H-3

$$(X)_{n}$$

$$R^{1}$$

$$R^{2}$$

$$R^{3}$$

$$R^{6}$$

$$R^{1}$$

in which .

- R¹, R², R³, X and n are as defined in claim 1;

. - R⁴ is a hydrogen atom, a C₁-C₆ alkyl or a C₁-C₆ haloalkyl;

- R⁶ is a hydrogen atom, a C₁-C₆ alkyl, a C₁-C₆ haloalkyl, a C₁-

5 C₆ alkoxy or a C₃-C₇ cycloalkyl;

comprising the reduction of an imine derivative of general formula (XII) by hydrogenation or by an hydride donor, in the same or a different pot to provide an amine derivative of general formula (VIIIb) or one of its salt;

- a fourth step according to reaction scheme H-4:

Scheme H-4

$$(X)_{n} \qquad (X)_{n} \qquad (X)_{n} \qquad (X)_{n} \qquad (X)_{n} \qquad (Y)_{p} \qquad (X)_{n} \qquad (Y)_{p} \qquad (Y)_$$

in which:

- R¹, R², R³, R⁷, X, Y, n and p are as defined in claim 1;

- R⁴ is a hydrogen atom, a C₁-C₆ alkyl or a C₁-C₆ haloalkyl;

- R⁶ is a hydrogen atom, a C₁-C₆ alkyl, a C₁-C₆ haloalkyl, a C₁-

15 · C_6 alkoxy or a C_3 - C_7 cycloalkyl;

- L^4 is a leaving group chosen as being a halogen atom, a hydroxyl group, -OCHO, -SCSN(Me)₂, an OR⁸ group, an OCOR⁸, R⁸ being a C₁-C₆ alkyl, a C₁-C₆ haloalkyl, a benzyl, 4-methoxybenzyl or pentafluorophenyl; or a group of formula

(Y)_p,

comprising a coupling reaction of an amine derivative of general formula (VIIIb) or one of its salt, with a carboxylic acid derivative of formula (IX) to provide a compound of general formula (I).

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20. Fungicidal composition comprising an effective amount of a compound

according to claim 1 and an agriculturally acceptable support.

21. Method for preventively or curatively combating the phytopathogenic fungi of crops, characterised in that an effective and non-phytotoxic amount of a composition according to claim 20 is applied to the plant seeds or to the plant leaves and/or to the fruits of the plants or to the soil in which the plants are growing or in which it is desired to grow them.